

MORRIS (R.T.)

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Clinical Lecture at the
New York Post-Graduate
Medical School, February
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BY

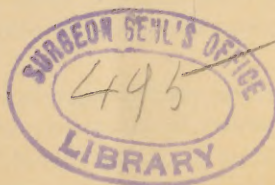
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GENTLEMEN. "How many appendicitis patients have you in there?" I asked when driving by a graveyard in company with a physician, one day last week. "Two of my own and four that were seen in consultation," said he. "I was just counting them up when you spoke, and I feel that none of them would be there if they could have had timely operations."

If the grave-stone of every appendicitis patient who need not have died were to give out a light, every cemetery in the land would shine at night.

Before removing the appendices from our two patients this afternoon, I will show two fresh specimens which illustrate widely different types of the disease. This first wicked looking specimen I removed on Tuesday from a patient who was in the eleventh day of an acute general peritonitis. The patient then was moribund. To-day he is recovering. There is always a question as to the policy of operating upon such patients, but accumulative experience enables us to attack cheerfully the most vicious of cases.

Up to the year 1890 we lost a good many appendicitis patients after operation, but from the vast mass of recent data, we have deduced a few apparently trifling changes in technique that give our patients chances for life; changing the whole outlook of these operations, just as ideas about peritoneal operations in general underwent a transformation a very short time ago.

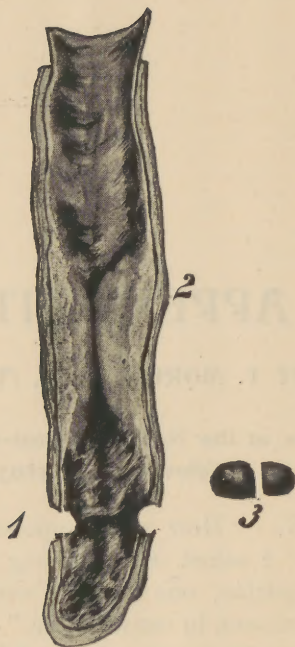


Figure 1.

Longitudinally split appendix. Perforated by concretions. Gangrenous.

1. Point of exit of fecal bullets.
2. Old stricture occluding lumen.
3. Hard, dry fecal bullets.

Again let us look at this dark and ragged specimen which has been slit along the free border to show the interior. A stricture at its middle occludes the lumen.

The stricture is a hieroglyphic in high relief and we can read it. It says that the patient once upon a time had appendicitis, that a bit of mucous membrane was murdered and cast out into the bowel, and that the resulting ulcer filled the gap with a collar of connective tissue.

When the stricture contracted it entrapped two fecal bullets in the distal half of the lumen and left the appendix loaded. Last week the bullets went through the wall and shot the patient.

The physician who asked me to see the case was doubtful about its being one of appendicitis, because there was no particular pain at McBurney's point and because there was no dulness on percussion in the right inguinal region. Neverthe-

less, he remembered my earnestness in insisting that acute peritonitis in adult males and in children of both sexes was a fire alarm calling the surgeon to come quickly and put out the appendix. The reason why there was no particularly tender spot and no inguinal dulness was because the abdomen was tense and shiny with acute general peritonitis and because one of the abscess cavities in the inguinal region was stretched with hissing, stinking gas. How did we find it out? We looked! When I had placed the patient in Trendelenburg's position and had evacuated a large amount of pus and gas, one of the consultants thought we had done enough. After sterilizing the abscess cavity with peroxide of hydrogen (Marchand), I proceeded to separate all adhesions and finally came to a large secondary cesspool of pus, containing the riddled gangrenous appendix.

Now the patient can live.

Don't forget what happened after it was thought advisable to rest content with draining the first abscess.

A word about opium. I am almost done with opium of any form in peritonitis of any sort. Mr. Tait, I believe, says that he has banished it from his pharmacopœia altogether.

My two definitions for opium in peritonitis are these.

1. A drug which stupefies the physician who gives it more than it does the patient who takes it.
2. A drug which greatly relieves the distress of the physician who without it would be compelled to do something rational for the patient who has put confidence in him.

Opium and peritonitis breed a vampire which lulls the patient to sweet repose while his life is being sucked out, and the doctor is looking the other way. Remove the cause for peritonitis when you can. Remove the products of peritonitis when you can do nothing better. Avoid as carefully as possible the teachings of our honored preceptors who did the best they could in the days when symptoms were treated and not prevented.

An abdomen swollen with peritonitis looks to me like a great big ripe boil and needing the treatment that boils usually receive.

Here is the second appendix. It is apparently normal as you observe, excepting at the tip where it is rough and clubbed. I removed it last Thursday from a young man who three weeks ago was laid up for a week with colic and vomiting, associated with swelling and tenderness in the right inguinal region. He

found that "something pulled" whenever he made exertion, and the tender spot remained. The roughness at the tip shows where adhesions fixed the tip of the appendix to parietal peritoneum, and that is what caused the pulling and the tenderness. His appendix is what I call a "growler."

The first patient of to-day's clinic is ready. The history is briefly this; Shortly after childbirth, fifteen years ago, agonizing colic, bilious vomiting, rigors, febrile reaction, a lump in the right inguinal region. Acute attacks have recurred several times and of late years the lump has been permanent. Intestinal obstruction has lately become a serious feature of the case. My analysis of her symptoms is this. At childbirth a foreign body in the appendix was compressed until it injured the mucous tube and allowed bacteria to enter the adenoid tissue. The colic means that the intestine was trying its muscle on disagreeable company, which needed to be forced away. This colic is sometimes awful, and always unnecessary, if the surgeon is near. Bilious vomiting means that absorbed septic matter was being excreted by the liver, and the ptomaine bearing bile on reaching the duodenum mischievously reversed the lever of the duodenum and flooded the stomach with bile. A reversed peristalsis caused by certain irritants is familiar to some of you as a laboratory experiment. The rigors and the febrile reaction meant that microbe products were poisoning sympathetic nerve centres. The inguinal lump indicated that local peritonitis had welded several structures together in order to protect the peritoneal cavity against the company that the intestine was trying to rid itself of. The intestinal obstruction means that adhesions have contracted.

The peritoneal exudates made a lymph cake. Sometimes this lymph cake is a simple pound cake, that the peritoneum digests as soon as the appendix has been temporarily appeased. Sometimes it is a cream cake, and the pus if not absorbed, finds its way into a large vein or into the ureter or into the bladder, or somewhere where no reputable surgeon would think of making an opening. Nature tries to do some surgical work but she is a good deal more of a success at making lilies.

Then again, we are never sure whether nature prefers to save the patient or to encourage a particularly fine bed of microbes. It is a pretty conceit for us to assume that she cares more for one specimen of *homo sapiens* than for a whole lot of *streptococcus*

pyogenes aureus. The presence of a lymph cake in the vicinity of an appendix vermiformis is the the piteous signal of the peritoneum for help, and the sympathetic surgeon must respond instantly, bearing in his hand the little wand that will vanquish the witch. A diseased appendix which is not walled in with lymph cake needs equally prompt attention by the surgeon.

Under procrastinating medical treatment by the good physician, a surly appendix may often be coaxed back into its hole where it mutters and sulks and prepares for another spring at the patient.

Our patient is now placed in Trendelenburg's posture. The reason for that is, because we do not want to play a jack-in-the-box game with intestines, but prefer to attend strictly to business. Another reason is because we wish to have pus run out instead of running in. Another reason is because one look at the involved parts is better than two feels and four guesses. The site of the appendix is exposed through the customary lateral incision. The lump is found to consist of a heterogeneous mass of omentum, mesentery and ileo-cæcal intestine, all firmly welded together. When the bass are biting fast and my line gets into this kind of a snarl I cut out the whole snarl at once and throw it away. I believe that we must do that in some of these old appendicitis cases with intestinal obstruction, but I have succeeded in undoing so many similar snarls that we will try it once more. Guided by the small granular lumps of fat we separate the adhesive omentum. That is easy. Guided by the direction of the blood vessels, we separate the adhesions of the mesentery. That requires sharp eyes, for the bowel as usual rolled itself up in mesentery when it first became frightened. Guided by the direction of muscular tissue we slowly work the ileum free. Here comes a sudden burst of pus which runs out upon the abdomen because of the Trendelenburg position. The abscess cavity is irrigated with peroxide of hydrogen (Marchand). That is done because the peroxide is a searching sterilizer and it throws pus and debris out of nooks and crannies. It is easy to observe that the appendix has practically gone into solution in the abscess cavity, and here I find a piece of apple core encrusted with phosphates that has caused all of the trouble. The cæcum has disappeared. It was drawn up by adhesions, strangled, and forced to join the abscess. There is no ileo-cæcal valve but in its

place a rigid, narrow, tortuous channel about five inches in length.

Gaze upon this wreck of vitals, produced progressively by successive attacks of appendicitis, and then consider the responsibility of the physician who in appendicitis cases advises the patient to wait. How easy and safe an early operation in this case! How desperate the operation now! I ought to resect the intestine right here, but the patient has been absorbing pus for several months so I will make a fecal fistula to relieve the ileum, and resect the intestine a month later. The shock we will treat with nitrate of amyl to the nose at first and then hypodermatic injections of nitro-glycerine and strychnine, together with the routine resources of hot bottles, hot rectal injections and elevation of the legs.

Our next patient is the genial Dr. Robert Kennedy, Jr., of proteinol fame, whom most of you know. Judging from his appearance he has never lived upon anything more artificial than a thick tender porter house steak. His appendix must come out, however. Two years ago after exposure to cold sea winds, the Doctor was suddenly attacked with colic and abdominal cramps, but at the end of a week was practically well again. Eight months ago he was again attacked in the same way, but with added symptoms of rigors and vomiting, together with pain and tenderness in the right inguinal region. After subsidence of the acute symptoms there remained a persistent feeling that something was wrong with the appendix. He was constantly inclined to press with his hand over the region of the appendix and found discomfort in certain positions when sitting. That is a pretty good history of early infectious appendicitis.

After his history had been taken, our conversation was something like this:

Q. Well! What do you advise me to do about it?

Ans. That depends. If you are always where good medical attendance is within easy reach, it would be as well to pay no particular attention to the appendix at present.

Q. But I travel a great deal, and am liable to be caught with an acute exacerbation at any time and place, am I not?

Ans. Certainly!

Q. Is the next attack likely to be more severe or more mild than the last one?

Ans. No one can possibly predict!

Q. Is sloughing or perforation as likely to occur in the third attack as in the tenth one?

Ans. Surely!

Q. Can I recover completely and have no further trouble without an operation?

Ans. Yes!

Q. Am I likely to?

Ans. No!

Q. What are the dangers of an operation now?

Ans. I have never been anxious for my patient no matter what the complications were, excepting in desperate cases with pus and septicæmia to deal with at the time of operation; when these two features were absent the technique which buries the stump of the appendix and which ensures against ventral hernia later has given me perfect ease and comfort in a responsible position, and the patients have made uninteresting recoveries.

Q. The greatest danger from the surgeon then, is when there is greatest danger from the disease?

Ans. *A la bonne heure!*

Q. Well I like the opposite combination better! If by having my appendix out now, I can escape the ever present dread of exacerbations and can save the time lost in attending to mild attacks. If you do not now dread the operation and if you will dread it when I am in danger from the disease, why is it not good business judgment to decide that the appendix should come out?

Ans. That is for you to say. I am at your service.

Q. When will you take it out?

Ans. On Saturday, 4:30 P.M., if you are willing to go before my class at the Post-Graduate Medical School. The matriculates have shown unusual interest in my appendicitis cases there.

Final. All right! Glad to give them points! I'll be there!

And here he is. A man in fine health, suffering only a little discomfort, deciding to have his infectious appendix removed as a plain matter of forethought and discretion.

The patient being placed in Trendelenburg's position my incision is made over the normal site of the appendix. This incision is about two and a half inches long, through skin and muscle and about one and one quarter inches long through transversalis fascia and peritoneum. Intestine presents, I see by the longitudinal band that it is colon. Passing it through the fingers

in a direction which will put the cæcal peritoneum upon the stretch, we soon come to a halt. The appendix must be very near. Here is its base presenting in the wound. I pull the appendix out through the opening. It is about five inches long, hard, and congested. While an assistant holds it with forceps, the mesentery of the appendix is ligated with cat gut and divided, the peritoneal and muscular coats of the appendix are clipped through at the cæcal junction. The mucous tube is ligated well down into cæcal mucous membrane with the finest of eye silk. The peritoneum of the cæcum about the base of the appendix is scarified with the point of a needle until pink serum exudes, and those of us who are accustomed to experimental abdominal work in the lower animals, realize that this is one of the most important points in the technique, and must never be neglected in cases like this one. The mucous tube is snipped away, leaving a trifling stump. Four Lembert sutures of cat gut bury the stump. If the silk ligature and its tiny stump must escape for any reason they would go into the lumen of the bowel. The relative position of structures after this method of suturing, is shown in Figure 2.

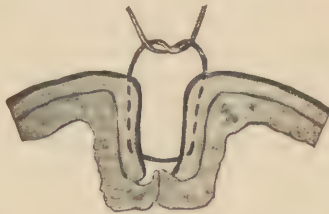


Figure 2.

The method of ligating which is apt to leave an Esquimaux window at the site of the appendix is illustrated in Figure 3, and

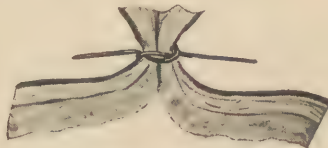


Figure 3.

I should have no confidence in such a scar.

In closing the wound of the abdominal wall, peritoneum and transversalis fascia and transversalis aponeurosis receive one tier of silk worm gut sutures. Internal oblique and external oblique aponeurosis each receive a separate tier of silk gut sutures, the knots to remain permanently, and skin and fat are honored with a cat gut tier. This patient now will not have a ventral hernia.

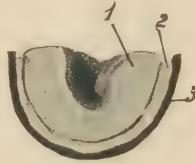


Figure 4.

Transverse section of longitudinally split appendix. Moderate exudation.

1. Mucosa and adenoid coat bulging a little.
2. Submucous connective tissue thicker than the combined muscular and peritoneal coats.
3. Muscular and peritoneal coats.

Let us examine the specimen removed. As I slit it along the free border you will observe that the inner tube hastily bulges out. It is what I call a "pop corn" appendix, and on comparing it with the normal portion of this other appendix the reason for the name is apparent.

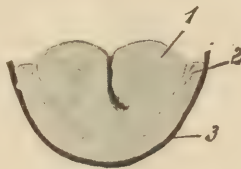


Figure 5.

Transverse section of longitudinally split appendix. Exudative. A "pop corn" appendix.

1. Mucosa and adenoid tissue bulging prominently.
2. Submucous connective tissue much distended.
3. Combined muscular and peritoneal coats.

The condition shown in Figure 5, is, I think, characteristic of infectious appendicitis. The elastic inner tube apparently swells within the outer tight tube until the crowding cuts off circulation and then little or big sloughs of mucosa and adenoid tissue

occur. These either decompose and escape into the bowel, leaving an ulcer; or they escape bodily through the wall of the appendix leaving a perforation. That I think is a pretty good history of appendicitis no matter whether the infection began through the influence of exposure, or foreign bodies, or local tuberculosis, or *amœbæ coli*, or nematodes, or typhoid fever, or dysentery. So far as I can learn, authors have not noted the fact that patients sometimes depreciate rapidly in health without discoverable cause for a week or for several weeks before the first acute symptoms of appendicitis appear. The natural explanation is that they are absorbing products of the infectious inflammation at the appendix before exudation has swollen the mucous tube enough to make strangulation. It is sometimes asked how can I reconcile this theory and the condition of dropsy of the appendix, in which all structures are widely distended. My answer is: Slow, low grade inflammation giving time for dilatation of all structures, and not associated with tonic muscular spasm of the muscular wall of the appendix, such as we would expect in acute catarrhal inflammation. The theory of causation of appendicitis carried out to meet the common principal symptoms, is arranged thus:

Colic.—Simple vomiting. Right inguinal tenderness, choking of swollen inner tube in tight muscular tube which is made more rigid by tonic muscular spasm.

Colic.—Bilious vomiting. Right inguinal tenderness. Formation of tiny or large inner tube sloughs, and absorption of septic products from the decomposing sloughs.

Colic.—Bilious vomiting. Right inguinal lump. Oozing through or slow perforation of appendix wall by sloughs and other contents, met by lymph exudate from peritoneum.

Colic.—Bilious vomiting. Collapse. Rapid perforation of appendix wall by sloughs and other contents, allowing no time for formation of protecting lymph exudate.

The reason why the inner tube is so hard pressed in the tight tube of peritoneum and muscle is because of the great round cell infiltration and serous distension. I will ask Dr. J. C. Smith to make a section of this infectious appendix in the pathological laboratory and then give us a photo-micrograph.

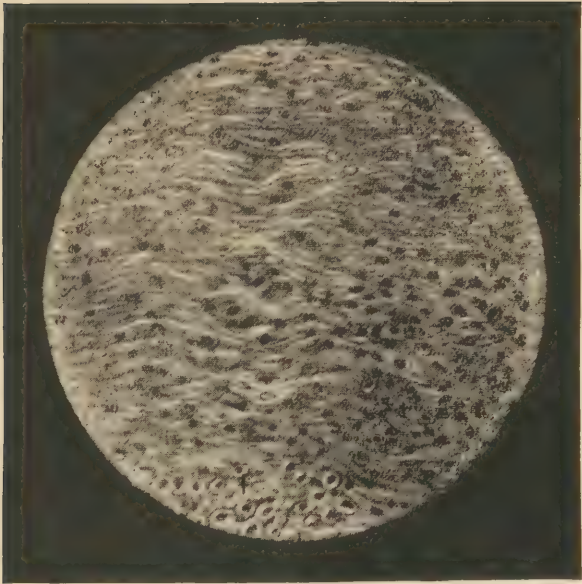


Figure 6.

Photo-micrograph of transverse section of infectious appendix of Dr. K. Mucosa, x 50. Intense round cell infiltration. No epithelium remaining.

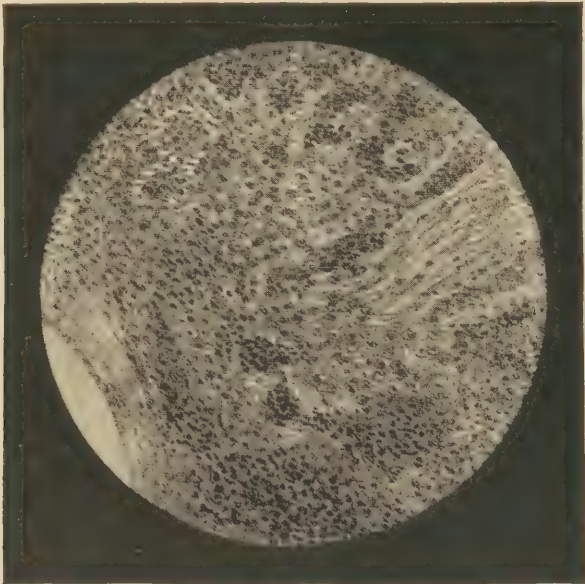


Figure 7.

Same case as Figure 6. Submucous and muscular coats infiltrated x. 250. Other sections of this same specimen show that the subserous tissue and even the walls of the bloodvessels were invaded and the lymphatics were clogged with products of this infectious exudative inflammation.

It seems strange to me that the life insurance companies pay so little attention to a disease which daily claims its large quota of deaths. Patients who have exacerbating appendicitis can at present take out heavy policies in anticipation of a fatal termination of the malady. The insurance companies will not always discover that a patient has appendicitis if the diagnosis which patients bring to the surgeon form any guide. I am keeping a record of diagnoses that were made for patients of mine who had typical appendicitis, and the list up to the present time includes bilious colic, bilious peritonitis, gall stones, typhoid fever, typhlitis, perityphlitis, cæcitis, la grippe, abscess of the abdominal wall, pyosalpinx, ovarian abscess, and psoas abscess.

I wish the physicians who make the diagnosis of typhlitis, perityphlitis and idiopathic peritonitis, could know how farcical such a diagnosis sounds to those of us who have frequent occasion to look and who find the cases to be appendicitis.

This subject of appendicitis, Gentlemen, is very near to my heart. Friends of mine attacked in the prime of manhood are now gone forever, because their physicians waited to see if they would not get better without operation. When they were a little worse consultants were called in, and the consultants gave cheer and hope to the anxious families by describing similar cases of theirs which had made most excellent recovery. Finally, when my friends were dead, the physicians said: There! Those were the cases for early operation.

As to the after treatment of these cases I treat cases of appendicitis as I do surgical abdominal cases in general, strictly recumbent position upon the back for twenty-four hours or more. Hot water to quench thirst, and practically nothing else for twenty-four hours. Sometimes, however, when there is much nausea and giddiness from ether, it is well to quiet it with a deserts- spoonful of effervescing bromo-soda in a half glassfull of cool water—not iced. At the end of twenty-four hours begin a diet with proteinol, three tablespoonfuls every three hours; then for twenty-four hours proteinol two tablespoonfuls every hour and milk four ounces every three hours, giving them separately. Watch the effect of the milk carefully. Should its casein curdle in masses causing pain and flatulence with irritation, we must not continue to use it raw.

After about 60 hours, should nothing untoward have hap-

pened, the patient may be put upon regular diet. Care of course being taken that cold cabbage, pickles, beets, cheese and fried foods be omitted. Even at the risk of being monotonous let us keep them on plain soups, roast and broiled beef, mutton and chicken; eggs, boiled or in plain omelettes; vegetables to be sparingly used unless known to be of no harm, tomatoes, potatoes stewed, baked, hashed-brown or *au gratin*, not fried or boiled, lima beans, asparagus, etc. Cabbages and cucumbers had better be eschewed. Milk and dry toast well done, but not carbonized. But little food should be taken at a time, but often, allow all the milk they want, should it agree. As to proteinol the more they take and the oftener they take it, the stronger they will be. Always give proteinol by itself, one, two or three tablespoonfuls at a time according to the patient's age and inclination. All pastries should be denied, puddings well made may be allowed as well as a fair amount of fruit, raw or cooked, so as to keep the bowels in good working order. Omitting all unripe and distinctly acid fruits that might occasion pain or diarrhæa.

If the patient has been in the habit of smoking and requests it after about a week, I allow it in moderation. The same as regards stimulants. If the bowels have not moved on the second day after the operation I advise an enema of soap suds one pint, glycerine one ounce, and olive oil one ounce, the whole to be well mixed and injected gently, retained as long as possible, then ejected into a bedpan. By no means must a patient try to get up or help himself in these matters. From this on the bowels should move each day or every other day; should they not naturally move they must be made to move by internal medication. The mildest and gentlest methods must of course be used. It goes without saying the room is warm, comfortable and cheerful. The dressings are not to be moved as long as the patient has not disarranged them, or pain, fever, and discomfort generally does not call for it. In about 14 days they can be removed and the wound dressed, if pus is present ferret it out with peroxide of hydrogen (Marchand's), dust with aristol, cover with absorbent sublimated gauze, then a layer of absorbent cotton or wood wool, then either use adhesive strips or spica bandage to keep the dressing in place, the size and condition of the wound will determine you in this. It is best that patients should not sit up in the bed before the 17th day, then for a little

while, more on the 18th, sitting up beside the bed on the 19th, on the 20th a little walking around the room is allowed. On the 21st day patients are generally ready to leave the hospital.

Since the original article was presented for publication the author has completed a series of researches which prove that appendicitis is an infectious, exudative inflammation following entrance of bacteria into the mucosa and adenoid tissue. The inflammation once begun probably does not stop until slow erosion or rapid necrosis causes entire disappearance of the mucosa and adenoid tissue. Years may be required for the completion of the infectious process, and in the interval the patient is subjected to the danger of poisoning of peritoneum, of thrombosis of mesenteric vessels,—of local cellulitis, and of various other septic complications.

